**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1-3 (cancelled)

4. (currently amended) ~~The method of claim 5, wherein~~ A method of generating coefficients for use in an adaptive equalizer, the method comprising:

generating first coefficients for use by the adaptive equalizer to reduce pre-cursor intersymbol interference in an input signal; and

generating second coefficients for use by the adaptive equalizer to whiten noise in the input signal,

wherein the first and second coefficients are used, respectively, in first and second sets of taps in a finite impulse response feedforward filter, the first coefficients are generated based on the input signal and noise, the second coefficients are generated based on an estimate of the noise, and the noise is estimated by subtracting a substantial replica of the input signal from a delayed version of the input signal and noise.

5. (cancelled)

6. (previously presented) A method of generating coefficients for use in an adaptive equalizer, the method comprising:

generating first coefficients for use by the adaptive equalizer to reduce pre-cursor intersymbol interference in an input signal; and

generating second coefficients for use by the adaptive equalizer to whiten noise in the input signal,

wherein the first coefficients, $b_K^i$, are generated as follows:

$b_k^i = b_{k-1}^i + \beta_1 \cdot E_k \cdot R_{k-i}$, for i=1 to M,

where i is an index of taps in a feedforward filter in the adaptive equalizer, $\beta_1$ is a step size of the feedforward filter, $E_k$ is an error signal generated by the adaptive equalizer, $R_{k-i}$ is the combined input signal and noise fed to the adaptive equalizer, and M is a number of taps in the feedforward filter between a first tap and a main tap.

7. (previously presented) A method of generating coefficients for use in an adaptive equalizer, the method comprising:

generating first coefficients for use by the adaptive equalizer to reduce pre-cursor intersymbol interference in an input signal; and

generating second coefficients for use by the adaptive equalizer to whiten noise in the input signal,

wherein the second coefficients, $b_k^i$, are generated as follows:

$b_k^i = b_{k-1}^i + \beta_2 \cdot E_{k-L} \cdot V_{k-i-L}$, for i=M+1 to $N_{fff}$,

where i is an index of taps in a feedforward filter in the adaptive equalizer, $\beta_2$ is a step size of the feedforward filter, $E_{k-L}$ is a delayed error signal generated by the adaptive

equalizer, $V_{k-i-L}$ is an estimate of noise fed to the adaptive equalizer, M is a number of taps in the feedforward filter between a first tap and a main tap, and $N_{ff}$ is a total number of taps in the feedforward filter.

8-11 (cancelled)

12. (previously presented) An article comprising a machine-readable medium that stores instructions for generating coefficients for use in an adaptive equalizer, the instructions causing a machine to:

generate first coefficients for use by the adaptive equalizer to reduce pre-cursor intersymbol interference in an input signal; and

generate second coefficients for use by the adaptive equalizer to whiten noise in the input signal,

wherein the first coefficients, $b_k^i$, are generated as follows:

$b_k^i = b_{k-1}^i + \beta_1 \cdot E_k \cdot R_{k-i}$, for i=1 to M,

where i is an index of taps in a feedforward filter in the adaptive equalizer, $\beta_1$ is a step size of the feedforward filter, $E_k$ is an error signal generated by the adaptive equalizer, $R_{k-i}$ is the combined input signal and noise fed to the adaptive equalizer, and M is a number of taps in the feedforward filter between a first tap and a main tap.

13. (previously presented) An article comprising a machine-readable medium that stores instructions for generating coefficients for use in an adaptive equalizer, the instructions causing a machine to:

generate first coefficients for use by the adaptive equalizer to reduce pre-cursor intersymbol interference in an input signal; and

generate second coefficients for use by the adaptive equalizer to whiten noise in the input signal,

wherein the second coefficients, $b_k^i$, are generated as follows:

$b_k^i = b_{k-1}^i + \beta_2 \cdot E_{k-L} \cdot V_{k-i-L}$, for i=M+1 to $N_{fff}$,

where i is an index of taps in a feedforward filter in the adaptive equalizer, $\beta_2$ is a step size of the feedforward filter, $E_{k-L}$ is a delayed error signal generated by the adaptive equalizer, $V_{k-i-L}$ is an estimate of noise fed to the adaptive equalizer, M is a number of taps in the feedforward filter between a first tap and a main tap, and $N_{fff}$ is a total number of taps in the feedforward filter.

14-17 (cancelled)

18. (previously presented) An adaptive equalizer comprising circuitry which:

generates first coefficients for use by the adaptive equalizer to reduce pre-cursor intersymbol interference in an input signal; and

generates second coefficients for use by the adaptive equalizer to whiten noise in the input signal,

wherein the first coefficients, $b_K^i$, are generated as follows:

$b_k^i = b_{k-1}^i + \beta_1 \cdot E_k \cdot R_{k-i}$, for i=1 to M,

where i is an index of taps in a feedforward filter in the adaptive equalizer, $\beta_1$ is a step size of the feedforward filter, $E_k$ is an error signal generated by the adaptive equalizer,

$R_{k-i}$ is the combined input signal and noise fed to the adaptive equalizer, and M is a number of taps in the feedforward filter between a first tap and a main tap.

19. (previously presented) An adaptive equalizer comprising circuitry which:

generates first coefficients for use by the adaptive equalizer to reduce pre-cursor intersymbol interference in an input signal; and

generates second coefficients for use by the adaptive equalizer to whiten noise in the input signal,

wherein the second coefficients, $b_k^i$, are generated as follows:

$b_k^i = b_{k-1}^i + \beta_2 \cdot E_{k-L} \cdot V_{k-i-L}$, for i=M+1 to $N_{fff}$,

where i is an index of taps in a feedforward filter in the adaptive equalizer, $\beta_2$ is a step size of the feedforward filter, $E_{k-L}$ is a delayed error signal generated by the adaptive equalizer, $V_{k-i-L}$ is an estimate of noise fed to the adaptive equalizer, M is a number of taps in the feedforward filter between a first tap and a main tap, and $N_{fff}$ is a total number of taps in the feedforward filter.

20-25 (cancelled)

26. (previously presented) An adaptive equalizer which processes an input signal that includes noise, pre-cursor intersymbol interference, and post-cursor intersymbol interference, the adaptive equalizer comprising:

a feedforward filter which reduces the pre-cursor intersymbol interference and whitens the noise;

a feedback filter which obtains the post-cursor intersymbol interference in a signal that corresponds to the input signal;

circuitry which removes the post-cursor intersymbol interference from the input signal; and

circuitry which estimates the noise by subtracting a substantial replica of the input signal from a delayed version of the input signal,

wherein the feedforward filter includes separate first and second coefficients, the first coefficients to reduce the pre-cursor intersymbol interference and the second coefficients to whiten the noise,

wherein the first and second coefficients are used, respectively, in first and second sets of taps of the feedforward filter, and

wherein the feedforward filter generates the first coefficients based on the input signal and the noise and generates the second coefficients based on an estimate of the noise.

27. (previously presented) An adaptive equalizer which processes an input signal that includes noise, pre-cursor intersymbol interference, and post-cursor intersymbol interference, the adaptive equalizer comprising:

a feedforward filter which reduces the pre-cursor intersymbol interference and whitens the noise;

a feedback filter which obtains the post-cursor intersymbol interference in a signal that corresponds to the input signal; and

circuitry which removes the post-cursor intersymbol interference from the input signal;

wherein the feedforward filter includes separate first and second coefficients, the first coefficients to reduce the pre-cursor intersymbol interference and the second coefficients to whiten the noise, and

wherein the first coefficients, $b_K^i$, are generated as follows:

$b_k^i = b_{k-1}^i + \beta_1 \cdot E_k \cdot R_{k-i}$, for i=1 to M,

where i is an index of taps in a feedforward filter in the adaptive equalizer, $\beta_1$ is a step size of the feedforward filter, $E_k$ is an error signal generated by the adaptive equalizer, $R_{k-i}$ is the combined input signal and noise fed to the adaptive equalizer, and M is a number of taps in the feedforward filter between a first tap and a main tap.

28. (previously presented) An adaptive equalizer which processes an input signal that includes noise, pre-cursor intersymbol interference, and post-cursor intersymbol interference, the adaptive equalizer comprising:

a feedforward filter which reduces the pre-cursor intersymbol interference and whitens the noise;

a feedback filter which obtains the post-cursor intersymbol interference in a signal that corresponds to the input signal; and

circuitry which removes the post-cursor intersymbol interference from the input signal;

wherein the feedforward filter includes separate first and second coefficients, the first coefficients to reduce the pre-cursor intersymbol interference and the second coefficients to whiten the noise, and

wherein the second coefficients, $b_k^i$, are generated as follows:

$b_k^i = b_{k-1}^i + \beta_2 \cdot E_{k-L} \cdot V_{k-i-L}$, for i=M+1 to $N_{fff}$,

where i is an index of taps in a feedforward filter in the adaptive equalizer, $\beta_2$ is a step size of the feedforward filter, $E_{k-L}$ is a delayed error signal generated by the adaptive equalizer, $V_{k-i-L}$ is an estimate of noise fed to the adaptive equalizer, M is a number of taps in the feedforward filter between a first tap and a main tap, and $N_{fff}$ is a total number of taps in the feedforward filter.

29. (previously presented) The adaptive equalizer of claim 26, wherein the adaptive equalizer comprises a single pair high speed digital subscriber line equalizer.